C-17 Personnel Airdrop Optimization

Overview:

U.S. Air Force and Army officials, including scientists and engineers from the Mobility Directorate of the U.S. Army Natick Soldier Center, have been working jointly to test and evaluate the performance of paratroopers capabilities when using the C-17 Globemasters III aircraft in airborne operations.

The C-17 can carry 102 parachutists at any one time. Dual door exists will allow these parachutists to deploy the aircraft in 55 seconds. Safety, above all else, is the main issue.

A Personnel Airdrop Optimization (PAO) program was put into place at Yuma Proving Ground (YPG). The U.S. Army's 82nd Airborne Division paratroopers were called upon to simulate mass tactical assault parachute jumps using the C-17.

The focus then shifted to Fort Bragg, NC where C-17 operational tests were conducted. The purpose was to evaluate various aircraft configurations and paratrooper influences on the jump trajectory. A C-17 Brigade Airdrop Demonstration was successfully conducted. The demo consisted of six C-17's performing a "slice" (or portion) of the Brigade Airdrop Mission, which showcased the airdrop of heavy equipment loads and 204 paratroopers from the 82nd Airborne onto Sicily Drop Zone. The successful demonstration represented the culmination of the C-17 Initial Operational Test and Evaluation (IOT&E) testing at Fort Bragg.

In addition to direct engineering support for the test program, Mobility Directorate personnel were asked to modify 2,100 deployment bags and static lines for the tests at Yuma Proving Grounds (YPG) and Ft. Bragg in a very short time frame. All bags were modified and delivered to the test site on time.

These tests were of such high visibility that USAF BG Ron Kadish, the C-17 Program Manager, was receiving daily briefings on the progress of the tests. He personally travelled to YPG to witness the last test and to extend his thanks to those who participated.
COL Rick Walker, the Commander of YPG, also expressed his appreciation to the response of the Mobility Directorate personnel.

Through ongoing efforts, evaluation missions continue. The latest was when 147 Rangers successfully jumped from two C-17 aircraft during Operation Bright Star, using the Natick-fabricated 20-ft. static lines.

A PAO II schedule has been put into place.
This test effort for the C-17 will involve USAF technical, test and operational organizations, the prime contractor, Army officials including, XVIII Airborne Corps, TEXCON ABNSOTD, and Mobility Directorate personnel. The main concerns of PAO II are an approach to validate the use of the standard 15 foot static line, increase Airdrop Cargo gross weight during airborne operations, and establish safe parameters for formation Airdrop

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rev 11-8-01